THERMAL EXPANSION TANKS

FOR POTABLE WATER

INSTALLATION & OPERATION INSTRUCTIONS

Models ST-5 through ST-210V
Models T-5 through T-12

NOTE: Inspect for shipping damage. Notify freight carrier or store where purchased immediately if damage is present. To avoid risk of personal injury and property damage, if the product appears to be malfunctioning or shows signs of corrosion, call a qualified professional immediately. Current copies of the product manual can be viewed at www.amtrol.com. Use proper safety equipment when installing.

THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY AND OTHER HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO REDUCE THE RISK OF PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

⚠WARNING **READ CAREFULLY THE PRODUCT INSTALLATION, OPERATING AND MAINTENANCE MANUAL. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THE MANUAL MAY RESULT IN SERIOUS OR FATAL INJURY AND/OR PROPERTY DAMAGE, AND WILL VOID THE PRODUCT WARRANTY. THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED PROFESSIONAL. FOLLOW ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS, IN THE ABSENCE OF SUCH CODES, FOLLOW THE CURRENT EDITIONS OF THE NATIONAL PLUMBING CODE AND NATIONAL ELECTRIC CODE, AS APPLICABLE.**

⚠WARNING **USE ONLY WITH POTABLE WATER SYSTEMS.** Do not operate in a setting with freezing temperatures or where the temperature can exceed **200°F** and do not exceed the maximum working pressure specified for this Product.w

⚠WARNING This Product, like most Products under pressure, may over time corrode, weaken and burst or explode, causing serious or fatal injury, leaking or flooding and/or property damage. To minimize risk, a licensed professional must install and periodically inspect and service the Product. A drip pan connected to an adequate drain must be installed if leaking or flooding could cause property damage. Do not locate in an area where leaking could cause property damage to the area adjacent to the appliance or to lower floors of the structure.

CALIFORNIA PROPOSITION 65 WARNING! This product contains a chemical known by the State of California to cause cancer and to cause birth defects or other reproductive harm. (California Installer/Contractor - California law requires that this notice be given to consumer/end user of this product.) **For more information: www.amtrol.com/prop65.html**

⚠WARNING **RUPTURE OR EXPLOSION HAZARD.** Do not expose Product to freezing temperatures or temperatures in excess of **200°F**. Do not adjust the pre-charge or re-pressure this Product except during installation or regular inspection. Replace the Product and do not adjust the precharge if corroded, damaged or with diminished integrity. Adjustments to pre-charge must be done at ambient temperature only. Failure to properly size the Product or follow these instructions may result in excessive strain on the system and may lead to Product failure, serious or fatal personal injury, leakage and/or property damage.

⚠WARNING A relief valve must be installed to prevent pressure in excess of local code requirement or maximum working pressure designated in the Product Manual, whichever is less. At least once every 3 years or if discharge is present, a licensed contractor should inspect the temperature and pressure relief valve and replace if corrosion is evident or the valve does not function. **FAILURE TO INSPECT THIS VALVE AS DIRECTED COULD RESULT IN UNSAFE TEMPERATURE OR PRESSURE BUILD-UP WHICH CAN RESULT IN PRODUCT FAILURE, SERIOUS INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE AND VOID THE PRODUCT WARRANTY.**

⚠WARNING **Chlorine & Aggressive Water:** The water quality can significantly influence the life of this Product. You should test for corrosive elements, acidity, total solids and other relevant contaminants, including chlorine and treat your water appropriately to insure satisfactory performance and prevent premature failure.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

IMPORTANT GENERAL SAFETY INFORMATION -
ADDITIONAL SPECIFIC SAFETY ALERTS APPEAR IN THE FOLLOWING INSTRUCTIONS.

Pre-Installation

1 Ensure expansion tank is sized properly for application (Figure 1).
2. Remove plastic cap from air valve.
3. With tank empty of water, adjust air precharge to match cold water supply pressure.
4. Replace and tighten plastic cap on air valve.
5. Therm-X-Trol® ST-5, ST-8, ST-12 only: Insert Turbulator into connector (optional).

⚠WARNING **FAILURE TO PROPERLY SEAL VALVE CAP WILL RESULT IN LOSS OF PRECHARGE CAUSING PRODUCT TO FAIL.**

Installation

1. Install the expansion tank on the cold water supply line to the water heater at a point between the water heater and backflow preventer or other one-way device (Figure 2).

⚠WARNING Mount tank vertically only. Ensure the piping can support the entire weight of the tank when full of water.

⚠WARNING Models ST-25V through ST-210V are floor standing and may not be hung from the piping.

2. Once the expansion tank is installed, check the cold water supply line for any leakage. Make repairs if necessary.
3. Before the initial firing of the water heater, open any hot water fixture and draw water until all air is removed from the system. Turn the water heater temperature control to desired ending temperature (see water heater instructions). Do not set temperature higher than the expansion tank maximum.
4. To relieve initial thermal expansion, slightly open a hot water faucet. Continue until water heater aquastat temperature is satisfied. Once heater is at its operating range, no further bleeding of expanded water is required.
5. The water heater and expansion tank will now be operational. The expansion tank will control pressure increases caused by thermal expansion to a level below the water heater relief valve setting.

Maintenance

A professional plumber should check the complete system, including the expansion tank, yearly and more frequently as the system ages. Checking the precharge allows a small quantity of air to escape and can result in an insufficient air charge. Always check the precharge while the tank is isolated and empty of water, and be sure to maintain the proper precharge whenever the tank is inspected.

Warranty

ST-5 through ST-25V Models: Five (5) Year Limited Warranty
ST-30V through ST-210V Models: One (1) Year Limited Warranty
T-5 through T-12 Models: One (1) Year Limited Warranty
Visit www.amtrol.com for complete warranty details.

Figure 1.

Expansion Tank Volume (Gal.) Maximum Temperature Setting 140°F

Water Heater Size (gals.)	Static Supply Pressure (psig)		
	40	**60**	**80**
40	2.0	2.0	2.0
50	2.0	2.0	2.0
60	3.2	3.2	3.2
80	3.2	3.2	4.4
120	4.4	4.4	10.3

Expansion Tank Volume (Gal.) Maximum Temperature Setting 160°F

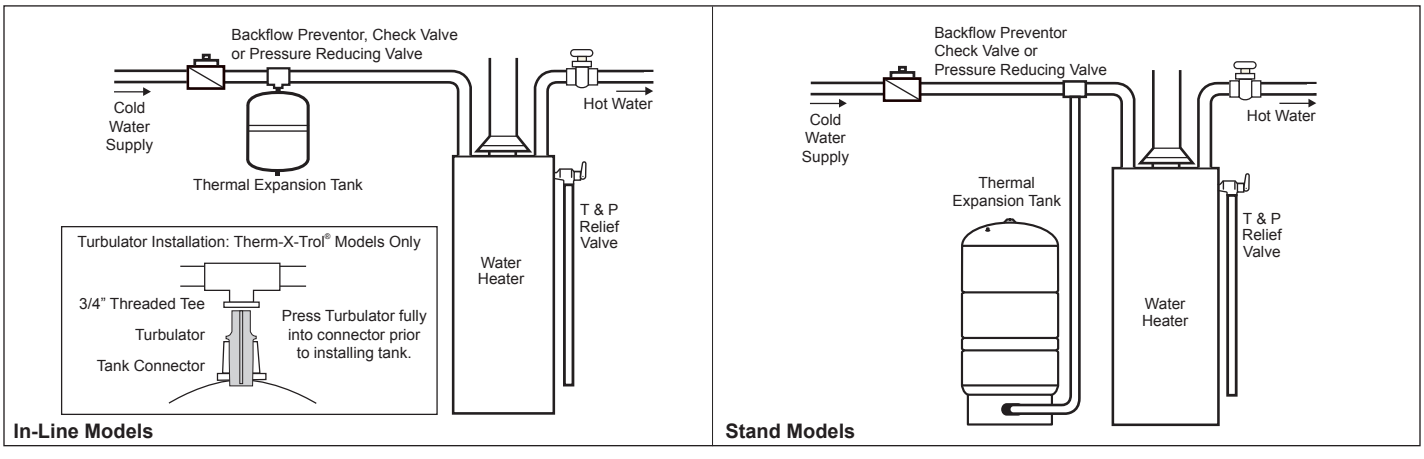
Water Heater Size (gals.)	Static Supply Pressure (psig)		
	40	**60**	**80**
40	2.0	2.0	3.2
50	2.0	3.2	3.2
60	3.2	3.2	4.4
80	3.2	4.4	10.3
120	4.4	10.3	10.3

Expansion Tank Volume (Gal.) Maximum Temperature Setting 180°F

Water Heater Size (gals.)	Static Supply Pressure (psig)		
	40	**60**	**80**
40	3.2	3.2	3.2
50	3.2	3.2	4.4
60	3.2	4.4	10.3
80	4.4	10.3	10.3
120	10.3	10.3	10.3

Sizing based on: 40°F incoming water temperature; 150 psi T&P safety relief valve; Pre-charge equal to static supply pressure.
For larger applications: Visit amtrol.com, download the AMTROL App or contact Technical Support at 401.535.1216.

Figure 2.



ANTIMICROBIAL PROTECTION™ NSF/ANSI 61 LOW-LEAD

AMTROL

1400 Division Road, West Warwick, RI USA 02893
T: 800.426.8765 F: 800.293.1519
www.amtrol.com

PHCC PLUMBING-HEATING-COOLING CONTRACTORS ASSOCIATION Mark of the Originator MADE IN USA

© 2014 AMTROL Inc.

Part #: 9015-087 (06/14)